Preventing Inadvertent Perioperative Hypothermia

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GAIN, 22nd October 2015
Background: Perioperative Hypothermia

- T<36°C associated with morbidity, mortality & ↑LOS

- Anaesthesia: loss of thermoregulation

- Surgical exposure

- NICE CG 65, 2008
  - preventing inadvertent perioperative hypothermia
  - interventions
    - pre-admission
    - pre-, intra- & postoperative

Figure 1: Outcomes Associated with Perioperative Hypothermia

- ↑Blood loss
- ↑Recovery time ↑LOS
- ↑Post-op shivering
- ↑Cardiac events
- ↑Wound infection
- ↓Patient satisfaction
Establishing the need for change

• Initial patient focus group
  – Day Of Surgery ward (DOSW)
    • admitting majority of patients undergoing surgery in BCH

• Baseline snap survey
  – 40% of patients arriving to DOSW were T<36°C
    • no active warming before arrival to theatre
Engaging with relevant stakeholders

- TPOT group (The Productive Operating Theatre)

- A fishbone diagram

- Pareto Principle (80:20 rule)
  - one intervention at each stage
    - Pre-admission
    - Pre-op
    - Intra-op
    - Post-op
Hypothermia Care Bundle

1. Pre-Admission: Patient advised to keep warm
2. Pre-op Ward: Active warming aiming >36.5°C
3. Anaesthetic room: Aim min. 36.0°C
4. Theatre: Maximal warming; minimal exposure
Pre-Theatre

1. Pre-admission letter
   – Bring additional clothing
   – Tell staff if they feel cold
   – Potential for hypothermia to delay surgery

2. Pre-op Ward
   – Min 2 blankets
   – Ambient temperature maintained 21°C
   – Forced Air Warming

   – Equipment: Warmers x4 (supplied free by manufacturer)
   – Education: Warm if ≤T36.5 (until comfortably warm)
Intra-op phase

3. Anaesthetic Room
   - **Temperature measurement**
     • pre-induction and every 30 min
   - Forced Air Warming
     • instigated from anaesthetic room

4. Theatre
   - **Pre-warm** theatre and bed
   - Minimise patient exposure
   - Fluid warming
Empowering staff to support the change

• **Buy in**
  – audit & staff meetings
  – motivational notice board
  – run charts updated weekly

• **Barriers and enablers**
  – Identified via: PDSA (Plan, Do, Study, Act) cycles
  – Solved through: listening to staff suggestions
  – Supported by: TPOT group
Conclusions

Preventing Perioperative Hypothermia:
target 100% patients >36°C
Patient Experience

• “I dressed as warmly as I could...I’m still warm...feel my hands. I know it’s important”

• “I was so nervous but once I cozied up under the heated blanket to wait for my surgery I felt so much better”

• “Can we bring these blankets to the ward afterwards?”
The Journey

- Engaged and empowered staff to work collaboratively
- Simplicity in design; use of networking; sought advice
- Regular feedback
  - shared vision and learning
  - raised staff morale
  - tangible improvements to the quality of care
- The future
  - extend our work across inpatient journeys
  - sharing our experiences across BHSCT sites…and GAIN!
Thank you

• Reference

http://www.nice.org.uk/Guidance/CG65